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(54) Title: **METHOD FOR IN VIVO DETERMINATION ON TESTED ANIMALS OF THE EFFICIENT CONCENTRATION OF DEUTERIUM DEPLETED WATER FOR CANCER THERAPY**

(57) Abstract: As per invention embodiment, the method provides Deuterium Depleted Water administering to tested animals before and after tumoral grafting with animal grafts and it takes the following steps: A) Deuterium Depleted Water administering to Wistar outbred rats by diet, with concentrations of 25 ppm D2, 60 ppm D2, and 100 ppm D2, over a period of 60 days, simultaneously to dieting a control group of animals with water having 150 ppm content of Deuterium (tap water), over the same period of time. B) Viability determination for the tumor cells to be grafted, using *tripan* blue C) Grafting of the animals in the experimental group and the control animals in the 60<sup>th</sup> day, subcutaneous, with  $1 \times 10^7$  malign tumor cells in 0.5 cc of normal saline solution of 256 Walker sarcoma (the solid tumor), and T8 Guérin/lymphotropic epithelioma (the solid tumor) both of them having cells with a viability over 98%. D) Continuously and long-term administering, by diet, of Deuterium Depleted Water, with concentrations of 25 ppm, 60 ppm, 100 ppm Deuterium, period over which the followings are to be done: a. Starting with the 4<sup>th</sup> post-graft day the tumor nodules measurement and examination is performed on each 2-3 days; b. Monitoring of animals' physiological condition by weekly weighing, monitoring their food and water consumption, notifying the toxic condition occurrence c. After 60 days, when all the animals in control group are dead, preferable between the 160<sup>th</sup> and 200<sup>th</sup> day after graft, the effect produced by administering of established concentrations of Deuterium Depleted Water is observed on the surviving animals homeostasis from experimental groups, respectively the way how humoral immune system and cellular immune system of these animals has been influenced, by performing of a series of examination on immunological condition of the animals, namely: leucocytes formula test to establish lymphocytes and blast cells levels; *hematopoietic* marrow tests to establish the *plasmocytes* and NK-K cells levels. Also, was established the level of the competent immunologic cells in the lymph nodes of the tumoral graft zona. E) Determination of efficient concentration of Deuterium Depleted Water for tested surviving animals depending on new homeostasis occurrence, and on the results obtained related to tumoral regression, as well as on cancer curing cases. This method determines the 60 ppm concentration of Deuterium Depleted Water to be the most efficient for cancer therapy and prophylaxis by continuously and long-term administering of this type of water in daily diet.

WO 2005/017522 A3



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**A. CLASSIFICATION OF SUBJECT MATTER**  
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Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ, BIOSIS, EMBASE

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	SOMLYAI G ET AL: "THE BIOLOGICAL EFFECTS OF DEUTERIUM-DEPLETED WATER, A POSSIBLE NEW TOOL IN CANCER THERAPY" DEUTSCHE ZEITSCHRIFT FUER ONKOLOGIE, HEIDELBERG, DE, vol. 30, no. 4, 1998, pages 91-94, XP009006973 ISSN: 0931-0037 cited in the application page 92, left-hand column, paragraph 5 - page 93, left-hand column, paragraph 4	1,2
X	WO 95/18545 A (HYD KUTATO-FEJLESZTO KTF; SOMLYAI, GABOR) 13 July 1995 (1995-07-13) cited in the application page 3, line 30 - page 4, line 18 ----- -/-	1,2

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

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